

61312.us.sequences.ST25
SEQUENCE LISTING

<110> Windisch, Jorg
Schoergendorfer, Kurt
Palma, Norbert
Knauseder, Franz
Boehling, Hans

<120> Expression vectors, transformed host cells and fermentation process for the production of recombinant polypeptides

<130> BP/G-33314 LNG 61312.US

<150> PCT/EP2004/009067
<151> 2004-08-12

<150> US 60/494,914
<151> 2003-08-13

<160> 19

<170> PatentIn version 3.3

<210> 1
<211> 495
<212> DNA
<213> Artificial

<220>

<223> DNA encoding human interferon alpha 2B with altered codon usage

<400> 1
tgcgatctgc cgcaaaccctt cagcctgggt agccggcgaa ctttgatgct tctggcacag 60
atgcggcgaa tctctttt ctcttgctta aaggatcgac atgacttcgg tttcccgccag 120
gaggagttcg gtaaccagtt ccaaaaggct gaaaccatcc cggatttgca tgagatgatc 180
cagcagatct tcaacctgtt cagcactaag gactcttctg ctgcttggga tgagaccctg 240
cttgacaaat tctacactga actgtaccag cagctgaacg accttggaaac ctgcgtgatc 300
cagggtgtgg gtgtgactga gactccgctg atgaaggagg actctattct ggctgtgcga 360
aaatacttcc aacggatcac tctgtatctg aaagagaaga aatacagccc gtgcgcctgg 420
gaggttgtcc gagcagaaat catgcggctt ttctctttgt ctaccaactt gcaagaatct 480
ttacgaagca aggaa 495

<210> 2

<211> 27
<212> PRT

<213> Pseudomonas diminuta

<400> 2

Met Leu Arg Val Leu His Arg Ala Ala Ser Ala Leu Val Met Ala Thr
1 5 10 15

Val Ile Gly Leu Ala Pro Ala Val Ala Phe Ala
Page 1

<210> 3
<211> 81
<212> DNA
<213> *Pseudomonas diminuta*

<400> 3
atgctgagag ttctgcaccc ggcggcgtcc gccttggta tggcgactgt gatcggcctt 60
gcgcggccg tcgcctttgc g 81

<210> 4
<211> 81
<212> DNA
<213> *Artificial*

<220>
<223> *DNA encoding signal sequence of gac gene of Pseudomonas diminuta with altered codon usage*

<400> 4
atgctgagag ttctgcaccc ggcggcgtcc gccttggta tggcgactgt gatcggcctt 60
gcgcggccg tcgcctttgc g 81

<210> 5
<211> 100
<212> DNA
<213> *Pseudomonas diminuta*

<400> 5
atcctggttc gtacgcgccc cctacaagtgt gtatctagg ggaacgttcc gggggcgtcg 60
ctgcaacggc gtctccggat ctgggtgaga gggaaatcc 100

<210> 6
<211> 209
<212> DNA
<213> *Pseudomonas diminuta*

<400> 6
tcttagaccaa caacatcttc aacgtctacc cgaccaagat tcaggagccg tcggccgacc 60
tgggcaatgg gatgtacagc gggcttgcgc cggtcggttt caccggcggta tcctggttcg 120
tacgcgccgc ctacaagtgg ttagtctaggg gaacgttccg ggggcgtcgc tgcaacggcg 180
tctccggatc tgggtgagag gggaaatcc 209

<210> 7
<211> 23
<212> DNA
<213> *Artificial*

<220>
<223> *Oligonucleotide, PCR primer*

61312.us.sequences.ST25

<400> 7
taactgtcag accaagttt a ctc

23

<210> 8
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide, PCR primer

<400> 8
gcgtttcggt gatgacggtg

20

<210> 9
<211> 23
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide, PCR primer

<400> 9
tcatgttga cagcttatca tcg

23

<210> 10
<211> 19
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide, PCR primer

<400> 10
ggtcgaggtg gcccggtc

19

<210> 11
<211> 36
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide, PCR primer

<400> 11
ggggggctca gaccaacaac atcttcaacg tctacc

36

<210> 12
<211> 32
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide, PCR primer

<400> 12
ccccccgaat tcactagtagc gcgtctctcc cc

32

61312.us.sequences.ST25

<210> 13
<211> 315
<212> DNA
<213> Artificial

<220>
<223> DNA comprising part of gac gene of *Pseudomonas diminuta*

<400> 13
ggggggtcta gaccaacaac atcttcaacg tctacccgac caagattcag gagccgtcgg 60
ccgacacctggg caatgggatg tacagcgggc ttgcgccgtt cggcttcacc ggcggatcct 120
ggttcgtacg cgccgcctac aagtggatgt cttagggaaac gttccggggg cgtcgctgca 180
acggcgtctc cggatctggg tgagagggga aatccatgct gagagttctg caccgggcgg 240
cgtccgcctt ggttatggcg actgtatcg gccttgcgcc cgccggagaga gacgcgtact 300
agtgaattcg ggggg 315

<210> 14
<211> 11
<212> DNA
<213> Artificial

<220>
<223> Oligonucleotide, part of PCR primer

<400> 14
tcgccttgc g 11

<210> 15
<211> 23
<212> DNA
<213> Artificial

<220>
<223> oligonucleotide, PCR primer

<400> 15
ttgcgcgc ggtcgccctt gcg 23

<210> 16
<211> 4
<212> PRT
<213> *Pseudomonas diminuta*

<400> 16

val Ala Phe Ala
1

<210> 17
<211> 540
<212> DNA
<213> Artificial

61312.us.sequences.ST25

<220>

<223> DNA comprising nucleotide sequence encoding human interferon alpha 2B

<400> 17

ggggggccgc	ggtcgcctt	gcgtgcgatc	tgccgcaaac	ccacagcctg	ggtagccggc	60
gaaccttgc	gcttctggca	cagatgcgyc	gaatctctct	tttctcttgc	ttaaaggatc	120
gacatgactt	cggttcccg	caggaggagt	tcggtaacca	gttccaaaag	gctgaaacca	180
tcccggtatt	gcatgagatg	atccagcaga	tcttcaacct	gttcagcact	aaggactctt	240
ctgctgctt	ggatgagacc	ctgcttgaca	aattctacac	tgaactgtac	cagcagctga	300
acgacacctg	agcctgcgtg	atccagggtg	tgggtgtgac	tgagactccg	ctgatgaagg	360
aggactctat	tctggctgt	cgaaaatact	tccaacggat	cactctgtat	ctgaaagaga	420
agaaaatacag	cccggtcgcc	tgggaggtt	tccgagcaga	aatcatgcgg	tcttctt	480
tgtctaccaa	cttgcaagaa	tctttacgaa	gcaaggaata	atacgcgtga	attcgggggg	540

<210> 18

<211> 807

<212> DNA

<213> Artificial

<220>

<223> DNA encoding fusion protein comprising signal sequence of gac gene of Pseudomonas diminuta and human interferon alpha 2B

<220>

<221> CDS

<222> (210)..(788)

<400> 18

tctagaccaa	caacatcttc	aacgtctacc	cgaccaagat	tcaggagccg	tcggccgacc	60					
tgggcaatgg	gatgtacagc	gggcttgcgc	cgttcggctt	caccggcgga	tcctggttcg	120					
tacgcgcgc	ctacaagtgg	tgatctaggg	gaacgttccg	ggggcgtcgc	tgcaacggcg	180					
tctccggatc	tgggtgagag	gggaaatcc	atg	ctg	aga	gtt	ctg	cac	cgg	gcg	233
			Met	Leu	Arg	Val	Leu	His	Arg	Ala	
			1				5				

gcg	tcc	gcc	ttg	gtt	atg	gct	act	gtg	atc	ggc	ctt	gct	ccc	gct	gtc	281
Ala	Ser	Ala	Leu	Val	Met	Ala	Thr	Val	Ile	Gly	Leu	Ala	Pro	Ala	Val	
10			15							20						

gcc	ttt	gct	tgc	gat	ctg	ccg	caa	acc	cac	agc	ctg	ggt	agc	cgg	cga	329
Ala	Phe	Ala	Cys	Asp	Leu	Pro	Gln	Thr	His	Ser	Leu	Gly	Ser	Arg	Arg	
25					30				35		40					

acc	ttg	atg	ctt	ctg	gca	cag	atg	cg	cga	atc	tct	ctt	ttc	tct	tgc	377
Thr	Leu	Met	Leu	Leu	Ala	Gln	Met	Arg	Arg	Ile	Ser	Leu	Phe	Ser	Cys	
45					50					55						

tta	aag	gat	cga	cat	gac	ttc	ggt	ttc	ccg	cag	gag	gag	ttc	ggt	aac	425
Leu	Lys	Asp	Arg	His	Asp	Phe	Gly	Phe	Pro	Gln	Glu	Glu	Phe	Gly	Asn	

60

61312.us.sequences.ST25
65 70

473

cag ttc caa aag gct gaa acc atc ccg gta ttg cat gag atg atc cag
 Gln Phe Gln Lys Ala Glu Thr Ile Pro Val Leu His Glu Met Ile Gln
 75 80 85

521

cag atc ttc aac ctg ttc agc act aag gac tct tct gct gct tgg gat
 Gln Ile Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser Ala Ala Trp Asp
 90 95 100

569

gag acc ctg ctt gac aaa ttc tac act gaa ctg tac cag cag ctg aac
 Glu Thr Leu Leu Asp Lys Phe Tyr Thr Glu Leu Tyr Gln Gln Leu Asn
 105 110 115 120

617

gac ctg gaa gcc tgc gtg atc cag ggt gtg ggt gtg act gag act ccg
 Asp Leu Glu Ala Cys Val Ile Gln Gly Val Gly Val Thr Glu Thr Pro
 125 130 135

665

ctg atg aag gag gac tct att ctg gct gtg cga aaa tac ttc caa cg
 Leu Met Lys Glu Asp Ser Ile Leu Ala Val Arg Lys Tyr Phe Gln Arg
 140 145 150

713

atc act ctg tat ctg aaa gag aag aaa tac agc ccg tgc gcc tgg gag
 Ile Thr Leu Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu
 155 160 165

761

gtt gtc cga gca gaa atc atg cggt tct ttc tct ttg tct acc aac ttg
 Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser Leu Ser Thr Asn Leu
 170 175 180

807

caa gaa tct tta cga agc aag gaa taa tacgcgtact agtgaattc
 Gln Glu Ser Leu Arg Ser Lys Glu
 185 190

<210> 19
 <211> 192
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Construct

<400> 19

Met Leu Arg Val Leu His Arg Ala Ala Ser Ala Leu Val Met Ala Thr
 1 5 10 15

Val Ile Gly Leu Ala Pro Ala Val Ala Phe Ala Cys Asp Leu Pro Gln
 20 25 30

Thr His Ser Leu Gly Ser Arg Arg Thr Leu Met Leu Leu Ala Gln Met
 35 40 45

Arg Arg Ile Ser Leu Phe Ser Cys Leu Lys Asp Arg His Asp Phe Gly
 50 55 60

Phe Pro Gln Glu Glu Phe Gly Asn Gln Phe Gln Lys Ala Glu Thr Ile
 65 70 75 80

61312.us.sequences.ST25

Pro Val Leu His Glu Met Ile Gln Gln Ile Phe Asn Leu Phe Ser Thr
85 90 95

Lys Asp Ser Ser Ala Ala Trp Asp Glu Thr Leu Leu Asp Lys Phe Tyr
100 105 110

Thr Glu Leu Tyr Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Ile Gln
115 120 125

Gly Val Gly Val Thr Glu Thr Pro Leu Met Lys Glu Asp Ser Ile Leu
130 135 140

Ala Val Arg Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Lys Glu Lys
145 150 155 160

Lys Tyr Ser Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg
165 170 175

Ser Phe Ser Leu Ser Thr Asn Leu Gln Glu Ser Leu Arg Ser Lys Glu
180 185 190